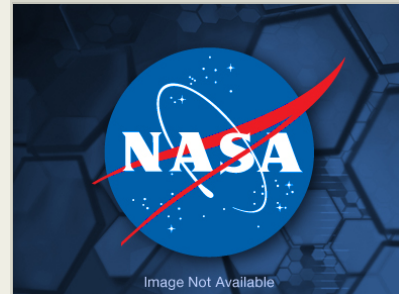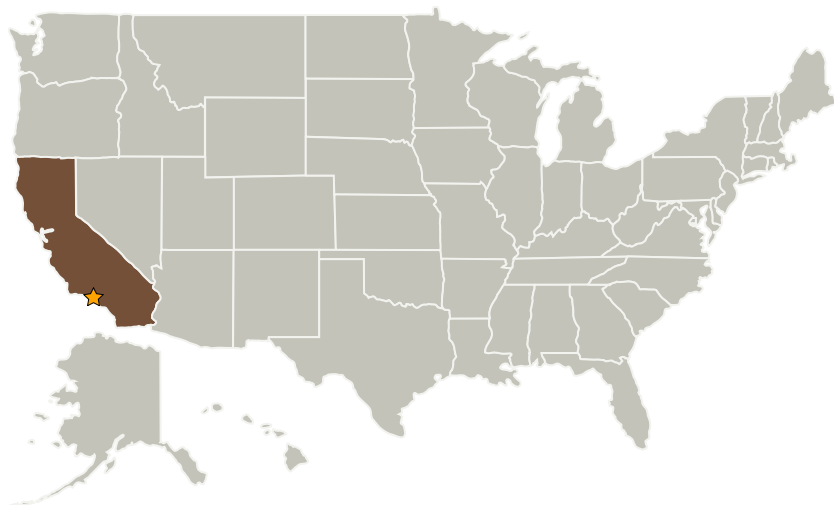## Project Introduction

This task will research and deliver solutions to 4 BIGDATA technology areas: (1) Rapid Science Algorithm Integration -- automatically and efficiently integrating IDL, Python, Matlab, etc. algorithms in the U.S. National Climate Assessment and into projects using the Common Astronomical Software Applications (CASA) software from NRAO; (2) data movement - exploring the tradeoffs between the architectural propertie and scalability properties of 4-5 modern data movement technologies under realistic scenarios for the U.S. NCAs and for the SKA; (3) cloud computing - for processing and for storage of Earth and astronomical data; (4) automatic and rapid data/metadata extraction from file formats - the use and application of technologies for automatically extracting text and metadata from science data formats.

Anticipated Benefits

Missions will benefit from solutions to 4 BIGDATA technology areas: (1) Rapid Science Algorithm Integration -- automatically and efficiently integrating IDL, Python, Matlab, etc. algorithms in the U.S. National Climate Assessment and into projects using the Common Astronomical Software Applications (CASA) software from NRAO; (2) data movement - exploring the tradeoffs between the architectural propertie and scalability properties of 4-5 modern data movement technologies under realistic scenarios for the U.S. NCAs and for the SKA; (3) cloud computing - for processing and for storage of Earth and astronomical data; (4) automatic and rapid data/metadata extraction from file formats - the use and application of technologies for automatically extracting text and metadata from science data formats.

Primary U.S. Work Locations and Key Partners

Archiving, Processing and Dissemination for the Big Data Era

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Organizations Performing Work	Role	Type	Location
⭐Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations
California

Links

License Link 1
(http://Apache License, version #2)

NTR 1
(http://44883)

NTR 1
(http://47160)

NTR 1
(http://46185)

Organizational Responsibility

Responsible Mission Directorate:
Mission Support Directorate (MSD)

Lead Center / Facility:
Jet Propulsion Laboratory (JPL)

Responsible Program:
Center Independent Research & Development: JPL IRAD

Project Management

Program Manager:
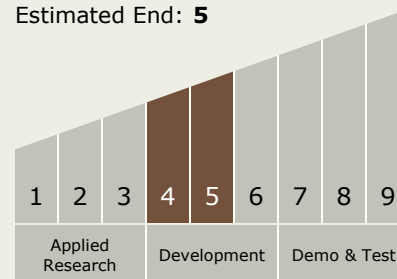Fred Y Hadaegh

Project Manager:
Jonas Zmuidzinas

Principal Investigator:
Christian A Mattmann

Technology Maturity (TRL)

Start: **4**
Estimated End: **5**

1	2	3	4	5	6	7	8	9
Applied Research			Development			Demo & Test		

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  └ TX02.1 Avionics Component Technologies
    └ TX02.1.3 High Performance Processors